



ABSTRACT AND BIOGRAPHY

Integrated Cost-Schedule Risk Analysis and Prioritizing Risks using Risk Drivers

Many cost estimates assume that the project schedule is engraved in stone so the schedule is often taken at face value, whether it is optimistic or success oriented. A risk analysis of the cost estimate is then conducted using cost risk drivers to see what the risks are to that estimate and to calibrate the appropriate cost contingency reserve. In this analysis the impact on cost risk of uncertainty in schedule is often ignored or incompletely considered.

This presentation discusses how cost and schedule risk analysis is integrated so that cost risk is affected by both traditional cost risk elements (e.g., uncertain material costs or labor rates) and schedule risk elements (e.g., fabrication or testing that may take longer and thus cost more). This approach is being applied today at NASA for the ARES project. It is the same approach that has been used successfully on construction and oil and gas projects.

The elements of the presentation are:

- Use of the Risk Driver approach to quantitative project cost and schedule risk analysis. The Risk Driver approach starts with individual Risk Register risks and characterizes them by their probability and impact range. These risks are then assigned to activities and costs as appropriate. A risk may affect several activities and activities, and an activity can be affected by several risks. Hence the analysis focuses on the risks themselves, exactly where it benefits management most directly.
- Integrate schedule and cost risk by using a resource-loaded schedule and simulating both cost and schedule together
- Calibrate and hence prioritize the effect of specific risks on the need for contingency reserves of time and of money. One interesting result is that some of the main risks to cost are the schedule risks that affect the duration of labor-type activities.
- Use of the prioritized risk list to study risk mitigation measures.

Dr. Dan Patterson, PMP
Principal
Acumen PM

With over fifteen years of experience, Dr Dan Patterson is recognized as a thought leader and visionary within the project management industry.

With a focus on project analytics and risk management, Dan was responsible for developing a now widely accepted integrated qualitative/quantitative approach to risk analysis. Depth of knowledge in this area covers the full project lifecycle from bidding and project initiation through execution & closeout. Extending this passion for project

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performance tracking across multiple industries including A&D, government, energy and EPC, Dan also has vast experience in the area of EVMS and project performance management.

SIGNIFICANT ACCOMPLISHMENTS

- Led Pertmaster Americas business unit from incubation through growth through successful acquisition stages attaining over 150% annual revenue growth over a four year period.
- Thought leader behind integrating qualitative & quantitative risk analysis techniques. Successfully productized this approach and today, this tool is globally renowned for integrated cost/schedule risk management analytics.
- Developed & implemented a risk workshop methodology that is today widely used across multiple industries.
- EVMS evangelist for Primavera developing a enterprise toolset for performance management.
- Performed as key advisor to DCMA on the UNCEFACT project data schema. Today, this schema is now the de-facto standard for US defense contractors.
- Experience implementing ANSI-748A compliant Earned Value Management Systems
- Risk Subject Matter Expert for numerous F500 companies & government agencies (Motorola, NASA, Exxon, Chevron, KBR, Jacobs, Bechtel, Northrop Grumman, Boeing)
- Visionary responsible for Deltek's WelcomHome, WelcomRisk, WelcomPortfolio
- Developed & commercialized numerous custom integration & add-on modules to MS Project, Deltek & Primavera platforms.
- Invited speaker at various Project Management events including PMI Global Congress, PMI CPM, PMI IPM, AACE & numerous local PMI chapter meetings.

David T. Hulett, Ph.D.

Principal

Hulett & Associates, LLC

David Hulett consults and trains in project risk management and scheduling through his firm, Hulett & Associates, LLC of Los Angeles. His clients have included companies in oil and gas, construction, pharmaceutical, transportation, communications, IT, large science, and aerospace and defense. He has consulted for several US Government agencies including Defense and Energy department agencies, NASA, GAO and GSA. Dr. Hulett focuses on qualitative and quantitative cost and schedule risk analysis and on project scheduling. Clients of Hulett & Associates, LLC are in the US, the Far East, South America and the Middle-East.

Dr. Hulett was project manager for the revision of the Risk Management chapter of the PMBOK® Guide that was published in 2000. He again led the revision of that chapter for the 3PrdP Edition. Dr. Hulett was recently on the Core Committee for the PMI Practice Standard for Scheduling and is the Deputy Project Manager of the PMI Practice



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Standard for Risk Management. He has served as Director of Technology Development of the PMI RiskSIG and as the Director for Schedule Risk of the College of Scheduling. Dr. Hulett has presented papers on cost and schedule risk analysis to many professional societies including PMI, INCOSE and AACE and at user groups for Primavera, C/S Solutions, Palisade and Crystal Ball. He has published papers in the Project Management Journal and UPM Network on project risk analysis.

Dr. Hulett has held strategic planning positions at TOSCO, an oil company, and at TRW in aerospace and defense. In the Federal government, Dr. Hulett managed offices in the Federal Energy Agency, Department of Energy and the Office of Management and Budget. He was an economist at the Federal Reserve Board of Governors. He was an Instructor in the Economics Department at Harvard University. His Ph.D. in Economics is from Stanford and B.A. in the Special Program for Public and International Affairs (Woodrow Wilson School) is from Princeton.